

ABSTRACT

A mask pattern correction method capable of
5 preventing a position of a pattern from deviating by
deformation of a mask due to gravity, a mask production
method, a mask, and a production method of a
semiconductor device capable of forming a fine pattern
with high accuracy are provided. A mask pattern
10 correction method, a mask production method, a mask
produced thereby and a production method of a
semiconductor device using the mask include a step of
creating first position data indicating positions of a
plurality of marks when supporting a first thin film
15 having the marks in a state where a first surface directs
upward, a step of creating second position data
indicating mark positions when supporting the first thin
film in a state where a second surface directs upward, a
step of obtaining a transfer function for converting the
20 first position data to the second position data, and a
step of correcting a mask pattern as a shape of exposure
beam transmission portions formed on a second thin film
by using an inverse function of the transfer function.